CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.01/TCS/CSR-05/062e/CEMENT/2016-17 Date: 14.06.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
*AGENCY	:	Mr. T.C. Shankarappa, Contractor, Bangalore.
*NAME OF THE WORK	:	Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
*REFERENCE	:	AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	10.06.2016
PERIOD OF TESTING	:	10.06.2016 to 14.06.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	150 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	485 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/W.No.01/TCS/CSR-06/062e/SAND-Gradation/2016-17 : 14.06.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

* Customer	: Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: Mr. T.C. Shankarappa, Contractor, Bangalore.
* Name of Work	: Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
Technical Reference	: IS : 2386 Part 1 - 1963 RA-2007
Sample ID	: Fine Aggregates
Sample Received on	: 10.06.2016
Date of Testing	: 14.06.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	94.80	90-100	90-100	90-100	95-100
2.36	75.80	60-95	75-100	85-100	95-100
1.18	53.80	30-70	55-90	75-100	90-100
600 Micron	25.30	15-34	35-59	60-79	80-100
300 Micron	12.80	5-20	8-30	12-40	15-50
150 Micron	4.80	0-10	0-10	0-10	0-15

* Information as furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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T-2377

Job No : CTCE/BBMP/W.No.01/TCS/CSR-06/062e/AGG/GR/2016-17 : 14.06.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: Mr. T.C. Shankarappa, Contractor, Bangalore.
* Name of Work	: Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 10.06.2016
Date of Testing	: 14.06.2016

AE-1

Total Wt. of Aggregates in gms= 7000

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	98.14	95-100	85-100
20	33.14	30-70	0-20
10	16.00	10-35	0-5
4.75	3.86	0-5	-

* Information is furnished by the Customer/Representative

Civil-Tech Consultants & Engineers Bangalore

Remarks : This sample is under Graded specific limits.

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Job No. CTCE/BBMP/W No.01/TCS/STEEL/2016-17 14.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Agency	:	Mr. T.C. Shankarappa, Contractor, Bangalore.
Name of the Work	:	Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
Date of Test	:	14.06.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm²	Tensile strength (Ultimate stress) N/mm²	Elongation percent gauge length		
1	8	0.40	510	552	13.10	O.K	O.K

Note:

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Job No : CTCE/BBMP/W No.01/TCS/STEEL/2016-17 14.06.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer : Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Agency : Mr. T.C. Shankarappa, Contractor, Bangalore.

Name of the Work : Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016

Date of Test : 14.06.2016

Technical Reference : IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	514	557	13.30	O.K	O.K

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T-2377

Job No.: CTCE/BBMP/W.No.01/TCS/CSR-06/062e/CUBE/2016-17 15.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer : Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

* Agency : Mr. T.C. Shankarappa, Contractor, Bangalore.

* Name of the work : Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.

* Reference : AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016

* Sample ID : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* Grade of Concrete : M_{30}

Compressive Strength as on : 28th day

Sample Received on : 15.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	17.06.2016	15.07.2016	8.115	489.3	21.75
2	17.06.2016	15.07.2016	8.239	510.2	22.68
3	17.06.2016	15.07.2016	8.310	512.6	22.78

* Information is furnished by the Customer/Representative

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Job No.: CTCE/BBMP/W.No.01/TCS/CSR-06/062e/CUBE/2016-17 15.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: Mr. T.C. Shankarappa, Contractor, Bangalore.
* Name of the work	: Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
* Reference	: AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
* Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{30}
Compressive Strength as on	: 28th day
Sample Received on	: 15.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	17.06.2016	15.07.2016	8.235	480.3	21.35
2	17.06.2016	15.07.2016	8.329	493.6	21.94
3	17.06.2016	15.07.2016	8.478	509.8	22.66

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Job No.: CTCE/BBMP/W.No.01/TCS/CSR-06/062e/CUBE/2016-17 18.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
* Agency	: Mr. T.C. Shankarappa, Contractor, Bangalore.
* Name of the work	: Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
* Reference	: AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
* Sample ID	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{30}
Compressive Strength as on	: 28th day
Sample Received on	: 18.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.06.2016	18.07.2016	8.158	476.3	21.17
2	20.06.2016	18.07.2016	8.269	490.2	21.79
3	20.06.2016	18.07.2016	8.310	504.1	22.40

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Job No.: CTCE/BBMP/W.No.01/TCS/CSR-06/062e/CUBE/2016-17 18.07.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer : Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
* Agency : Mr. T.C. Shankarappa, Contractor, Bangalore.
* Name of the work : Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
* Reference : AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
* Sample ID : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

* Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 18.07.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	20.06.2016	18.07.2016	8.199	483.5	21.49
2	20.06.2016	18.07.2016	8.226	492.5	21.89
3	20.06.2016	18.07.2016	8.356	517.2	22.99

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Job No.: CTCE/BBMP/W No 01/TCS/CSR-06/062e/Pre Cast Slab/2016-17

27.06.2016

TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

* Name of Customer	:	Asst. Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
* Name of Agency	:	Mr. T.C. Shankarappa, Contractor, Bangalore.
* Name of work	:	Construction of drains at Surabhi Layout Shivanahalli and Basaveshwaranagara in Ward No.01 of Yelahanka Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/YSD/AE-1/82/2016-17 Dated: 10.06.2016
Technical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Pre cast slab
Sample Received on	:	20.06.2016
Date of Testing	:	27.06.2016

AE-1

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	78.00	0.385	2513.83	1.56	0.955	32.00	16.30	17.60	16.81	21.01
2	50.00	79.00	0.390	2514.25	1.58	0.960	32.65	16.63	17.96	17.24	21.55
3	50.00	80.00	0.399	2540.11	1.60	0.965	33.50	17.06	18.43	17.78	22.23

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